THE

BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXXXIX.] THURSDAY, AUGUST 21, 1873. [No. 8.

## Original Communications.

# CHILDREN'S DISEASES IN MASSACHUSETTS.

By J. O. WEBSTER, M.D. HARV.

[Concluded from p. 155.]

### EPIDEMIC INFLUENCES AND INFECTION.

OVER 20 per cent. of our infant mortality is caused by epidemic and infectious diseases. This mortality is largely preventible. When people learn to guard as carefully against the spread of scarlatina, measles and whooping cough as they do against that of smallpox, perhaps ten per cent. of our infant mortality may be done away with. The epidemic diseases we are less able to guard against; but, with greater attention to hygiene, no doubt much of their fatality might be avoided.

The remainder of this essay will be devoted to a consideration of the most fatal diseases of children in Massachusetts.

**Average Annual Mortality under five from certain Diseases, and Percentage of each, in Massachusetts, for six Years, 1865–70.**

| Diseases. | No. | Percent. |
|---|---|---|
| All diseases | 8,944 | 100 |
| Atrophy and debility | 152 | 1.71 |
| Brain, disease of | 119 | 1.33 |
| Bronchitis | 131 | 1.47 |
| Cephalitis | 321 | 3.58 |
| Cholera infantum | 1,349 | 15.09 |
| Consumption | 292 | 3.26 |
| Convulsions | 449 | 5.03 |
| Croup | 392 | 4.38 |
| Diarrhœa | 190 | 2.13 |
| Diphtheria | 193 | 2.15 |
| Dysentery | 443 | 4.96 |
| Enteritis | 83 | .92 |
| Fever, typhoid | 114 | 1.28 |
| Hydrocephalus | 345 | 3.85 |
| Infantile, premature, &c. | 1,033 | 11.56 |
| Measles | 164 | 1.83 |
| Noma (canker) | 112 | 1.25 |
| Pneumonia | 616 | 6.88 |
| Scarlatina | 596 | 6.66 |
| Scrofula | 57 | .63 |
| Smallpox | 49 | .56 |
| Tabes mesenterica | 210 | 2.35 |
| Teething | 267 | 2 98 |
| Whooping cough | 293 | 3.27 |
| All other diseases | 974 | 10.89 |

In taking a comprehensive view of the field before us, we find diseases affecting the digestive system preponderating, they being the occasion of nearly one-fourth (23 per cent.) of the mortality under five years. Diseases of the respiratory system, including whooping cough, cause about one-fifth; developmental diseases one-sixth; while to typhoid and the eruptive fevers, to tubercular diseases, and to affections of the nervous system, are each attributed one-tenth.

Although our infant mortality is no greater than that of other countries, it is differently divided among the diseases, bowel affections being much more common here than abroad, and nervous diseases holding there a much more important place than here. Pulmonary diseases, also, cause over double the infant mortality in England that they do in Massachusetts.

Number of Deaths under five from certain Diseases, or classes of Disease, to 100,000 Births.

| Diseases or Classes. | Massachusetts, 1865–70 | England.[*] |
|---|---|---|
| Zymotic diseases | 11,118 | 9.112 |
| Convulsions | 1,282 | 4,631 |
| Cephalitis and hydrocephalus | 1,903 | 3,242 |
| Bronchitis, pleurisy and pneumonia | 2,140 | 5,348 |
| Tubercular consumption | 834 | 1,887 |
| Mesenteric disease | 600 | 439 |
| Teething | 763 | 1,554 |
| Gastritis and enteritis | 283 | 863 |

We shall first consider the chief diseases of the digestive system:—cholera infantum, diarrhœa, dysentery and enteritis.

## CHOLERA INFANTUM.

To cholera infantum is attributed 15 per cent. of our infant mortality, more than twice the proportion that is assigned to any other disease. It has steadily increased in its death-rate, and in 1870 caused 7·1 per cent. of the general mortality, being exceeded only by consumption, while its average for the past twenty-nine years was only 3·7 per cent.[†] In Boston, in 1870, it caused 22·18 per cent. of the deaths under five, and 9·38 per cent. of the general mortality.[‡] In Philadelphia, for seven years, 1862 to 1868, it occasioned 6·4 per cent. of all deaths.

It is very obvious to any one who has a clear appreciation of what cholera infantum is, that a large proportion of these were not cases of the true choleraic disease. The common habit of calling cases of summer diarrhœa of children, especially fatal ones, cholera infantum, impairs the value of all our statistics in regard to this class of diseases. The name should be restricted to those cases that present the true choleraic symptoms, almost identical with those of Asiatic cholera. We meet with such occasionally during every summer, either attacking a previously healthy child or supervening upon an already existing diarrhœa, and usually proving fatal within forty-eight hours.

Cholera infantum is considered an American disease, and is not recognized by English and Continental writers. It would appear from their descriptions, however, that certain of their cases of enteric disease present the characteristic symptoms of this affection.

---

[*] McCulloch. Statistical Account of the British Empire, 4th Ed., p. 622.
[†] Registration Report, 1870, p. 63.
[‡] Report of State Board of Health, 1871.

It is well known to be a disease of hot weather, nearly all of its mortality occurring in the months of July, August and September, and a sudden rise of temperature invariably increasing its prevalence and fatality.

Its increasing mortality is sufficient evidence that we have not made much advance in its treatment. It is probable that our labors will be most profitably expended in the direction of prevention; but in this direction we can do little, so long as the class of people among whom the disease most prevails is the class least easy to reach by our teachings or influence. So long as, whether in city or country, the simplest hygienic laws in regard to feeding and clothing babies, to cleanliness, ventilation and drainage, are habitually violated, so long will cholera infantum continue to be the scourge that it now is.

Of the other intestinal diseases, the per centage of infant mortality is about as follows:—Diarrhœa 2, dysentery 5 and enteritis 1. If a more correct report could be had, there is no doubt that enteritis would stand far ahead of the other diseases of this group, and that to it would be charged a large proportion of the deaths now attributed to cholera infantum.

The mortality from dysentery has been steadily decreasing for some years. Its infant mortality in 1865 was 833; in 1870, only 273. The epidemic of 1865 appeared to leave an influence that has gradually subsided, and now all cases can be considered sporadic. Dr. Derby predicts, from the experience of previous years, an increased death-rate from dysentery before many summers shall have passed.*

Next in the order of fatality, in infants, come *diseases of the respiratory organs.*

Bronchitis is charged with but 1½ per cent. of the mortality under five, croup 4⅓, diphtheria 2, pneumonia nearly 7, whooping cough 3¼.

### BRONCHITIS AND PNEUMONIA.

Here, as in the last class, we have to lament the incorrectness of the returns. Since the discovery that what was formerly known as lobular pneumonia was really bronchitis, with collapse of lobules, careful observers have found that bronchitis is, in this way, the cause of death in a much larger proportion of infantile cases than was formerly supposed, while the mortality from pneumonia is correspondingly lessened. From the statistics before us, however, we are forced to the conclusion that this advance is practically ignored, to a great extent, in Massachusetts, else we should not expect to find pneumonia charged with nearly five times as much infant mortality as bronchitis.

---

* Registration Report, 1870, p. 62.

Bronchitis and pneumonia, together, cause 8.35 per cent. of infant and 7.40 of general mortality.

Percentage of the Deaths from Croup and Diphtheria to the General Mortality, in Massachusetts.

| Period. | Croup. | Diphtheria. |
|---|---|---|
| 16 years 8 months, to Dec. 31, 1857 | 2.37 | — |
| 1858 | 2.36 | .09 |
| 1859 | 2.48 | .14 |
| 1860 | 2.46 | 1.10 |
| Five years, 1861 to 1865 | 2.36 | 3.54 |
| " " 1866 to 1870 | 1.74 | 1.19 |

### DIPHTHERIA.

Diphtheria has not prevailed epidemically of late years, and its total mortality decreased from 672 in 1865 to 242 in 1870. Over half of the deaths from diphtheria occur under five.

Diphtheria seems to have been unrecognized in Massachusetts until 1858, when we find .09 per cent. of the total mortality attributed to it. In the previous year, it had begun to prevail epidemically in England and in the extreme western part of our country. The mortality steadily increased until 1863, when it caused 5.08 per cent. of all deaths; it then diminished, and in 1870 caused only .88 per cent. In the past, the epidemics of diphtheria have been separated by wide intervals of time; hence we have reason to hope that another will not be experienced for some generations.

### CROUP.

Croup does not cause so large a proportion of our mortality as formerly; a fact attributable partly, no doubt, to more rational methods of treatment, but partly, also, to the fact that a portion of the cases formerly reported as croup would now be recognized as diphtheria. For the twenty-four years and eight months ending Dec. 31st, 1865, the per cent. of deaths from croup was 2.36; for the five years, 1866–70, only 1.74. For the year 1870, the proportion of mortality from croup and diphtheria was but a trifle above the former average of that from croup alone. These considerations show, I think, that diphtheria occurred sporadically before 1858, but was not recognized as a distinct form of croup until it began to prevail epidemically. No doubt, the distinction will be some time lost again, as it has been repeatedly in the past.

Whooping cough causes $3\frac{1}{4}$ per cent. of our infant mortality, and is as much an *opprobrium medicorum* as ever. Despite the multitude of specifics that have been discovered for it, its proportionate mortality is the same that it has been for thirty years.

### DEVELOPMENTAL DISEASES.

Next in the order we have chosen, come the so-called "developmental diseases," causing over 16 per cent. of the deaths under five, of which there are attributed to infantile and premature $11\frac{1}{2}$, atrophy and debility $1\frac{3}{4}$, and to teething about 3 per cent.

Of the "infantile and premature," about two-thirds belong to the former and one-third to the latter, as nearly as we can judge from the three years in which they have been reported separately. Admitting the correctness of this estimate, we have 8 per cent. of the deaths under five occurring from the causes that are grouped together as "infantile." As it is probable that these deaths occur mostly in the first year of life, they would furnish about 15 per cent. of the mortality in that year.

The deaths reported by this name we apprehend to be occasioned largely by inherited weakness of constitution; the children, born without sufficient vital force to carry on the processes of life, succumb sooner or later, without presenting the evidence of any disease to which their demise can be attributed. The burden of life is too heavy for them, and they are forced to let it fall.

Others of these deaths are occasioned by sheer neglect, sometimes intentional, but oftenest from ignorance of how little exposure a young infant will bear, or from necessity, which compels many mothers, of the poorest class, to leave their babies alone, or with other children, while they go out to earn their livelihood.

*Atrophy and debility* apparently caused only 1¾ per cent. of the mortality under five for the years 1865–70. In 1870, there were reported 217 deaths from these causes, or a little over 2 per cent. In Boston, in 1870, there were 150 deaths under five from "marasmus," or 6.4 per cent. Dr. Eustace Smith says that simple atrophy, in England, is "the commonest form of disease and the most frequent cause of death in infants."* This does not seem to be the case in Massachusetts, for the reason, probably, that while two of the causes given by Dr. Smith, poor quality and deficient quantity of breast milk, are equally operative here, his other cause, improper artificial feeding, is more apt with us to give rise to enteric disease.

Of *teething* we have already spoken, while treating of the causes of infant mortality.

### TYPHOID AND THE ERUPTIVE FEVERS.

The fevers constitute the next class of diseases in our division, causing, as we have have said, one-tenth of our infant mortality, divided as follows:—typhus, including typhoid and infantile fevers, 1¼, measles 1⅚, scarlatina 6⅔, and smallpox 0½ per cent.

*Scarlatina* stands third in the order of mortality of children's diseases (not reckoning "infantile" as properly *a disease*), cholera infantum and pneumonia alone being more fatal. Two-thirds of the deaths from scarlatina occur under five, and one-fourth between five and ten. It is not so eminently a disease of infancy as measles, of which four-fifths of the mortality occurs under five.

The *apparent* is much less than the *real* mortality from *measles*, as this disease is more apt than any other to be followed by sequelæ, the most important of which are tubercular and brain diseases. It often, too, leaves the system debilitated and badly able to withstand the attack of any acute disease that may ensue.

---

* **Wasting Diseases of Children, 1st Amer. Ed., p. 26.**

The diseases of this class are, to a great extent, preventible, and the ten per cent. of infant mortality that they cause is, in a certain sense, unnecessary. If the contagion of scarlatina were as much dreaded as that of smallpox, which only caused one-eighth as many deaths in the thirty years of registration, if as great pains were taken to avoid the disease and as thorough disinfection were practised after it, much of the mortality might be prevented. The same is true of measles.

*Smallpox* causes as large a proportion of the deaths in infancy as in later years. This would not be so if vaccination were not criminally neglected. If performed successfully at an early age, it would afford perfect protection for more than the five years that we are considering.

The death-rate from *typhoid fever* in infancy is only one-fourth as great as for all ages. Its causes are doubtless the same as in adults, and it is one of the diseases that we should confidently expect to diminish under a more devout worship of Hygeia.

### TUBERCULAR DISEASES.

We next come to the consideration of tubercular diseases, the occasion of ten per cent. of our infant mortality, consumption being charged with 3¼, hydrocephalus 3⅚, scrofula 0⅝, and tabes mesenterica 2⅓ per cent.

Although these diseases are grouped together for convenience, strictly speaking, there is probably nothing tubercular about the last two, scrofula and tabes mesenterica, the cheesy deposit found in those diseases being simply the product of a low form of inflammation. These, with hip-joint disease, have too long been considered to depend upon a certain scrofulous diathesis; but such opinions are rapidly fading before recent advances in pathology, and we are coming to see that there is no scrofulous diathesis, analogous to the tubercular, but that "scrofulous" children are simply those with feeble vitality, whence they become, from various exciting causes, obnoxious to these low forms of inflammation.

*Consumption*, it will be seen, is comparatively infrequent before the age of five years, causing only 3¼ per cent. of the deaths, while it occasions 20 per cent. of the general mortality. For the eight years, 1863–70, 6.22 per cent. of the deaths from consumption occurred under five, while only 3 per cent. occurred between five and fifteen; suggesting, we think, that most of those who inherit the disease succumb before the age of five years, while those with only a tendency to it, needing an exciting cause for its development, are comparatively safe until puberty.

*Hydrocephalus*, which means principally, as used in our Registration

Reports, tubercular meningitis, occasions 3.85 per cent. of the infant mortality. About 90 per cent. of all the deaths from hydrocephalus occur under five, and two-thirds of the remainder between five and ten years. Its proportionate mortality is less than formerly, being only three-fourths as great for the five years, 1866–70, as for the twenty-five years preceding.

Tubercular meningitis will be seen, from our statistics, to be a more important disease than is generally realized, causing one in twenty-six of the deaths under five, having a considerably greater infant mortality than consumption. This is to be expected in a community where tuberculosis is so prevalent as here, since it is almost invariably the case that children with this disease are the offspring of tuberculous parents.

*Tabes mesenterica* causes 2.35 per cent. of the deaths under five, over 80 per cent. of its mortality occurring under that age. Its proportionate mortality has been greater during the last ten years than formerly. As already said, there is probably nothing tubercular about the disease, the deposits in the mesenteric glands being the simple product of inflammation of a low grade, excited by a previous enteritis. Vogel holds strongly to this opinion, and Meigs and Pepper endorse it as highly probable.

### NERVOUS DISEASES.

Diseases of the nervous system occasion one-tenth of our infant mortality, of which there is attributed to disease of the brain 1⅓, cephalitis 3½, and convulsions 5 per cent. This class of diseases has a much smaller proportionate mortality here than in England, where diseases of the nervous system, including hydrocephalus, occasion one-fourth of the deaths under five years. In Massachusetts, their percentage is less than 14.

*Cephalitis* causes 3½ per cent. of our infant mortality. Of all deaths from this disease, 54 per cent. occur under five.

Judging from our Registration Reports, simple inflammation of the brain must be more prevalent in Massachusetts than in foreign countries, or, so far as I can ascertain, in other portions of our own. Dr. West speaks of its "extreme rarity," and seven cases constitute the whole of his experience in this formidable disease.* Tanner says, "simple encephalitis is a very rare disease during childhood, while acute hydrocephalus is very common."† Vogel states that it is much rarer than the tubercular form, and is no more common in children than in adults. The testimony of all the French writers is to the same effect. Meigs and Pepper state that "its frequency is much less than that of tubercular meningitis."‡

In Massachusetts, we find that the average annual mortality, under five, of cephalitis, is 321, against 345 for hydrocephalus, and their respective percentages 3.58 and 3.85; showing but little difference in their prevalence, especially when we consider that the former is not so absolutely fatal as the latter disease.

---

* Diseases of Infancy and Childhood, 4th Amer. Ed., p. 103.

† Diseases of Children, 2d Amer. Ed., p. 305.

‡ Diseases of Infancy, p. 464.

We think the correctness of these statistics will be confirmed by the experience of all practitioners in Massachusetts.

In common with nearly all nervous diseases, the proportionate mortality of cephalitis has increased, being much greater for the last few years than previously.

*Convulsions* cause an annual average of 449 deaths under five, or 5 per cent. of our infant mortality; 90 per cent. of all the deaths from this cause occurring under five.

Our proportionate mortality from convulsions is small as compared with that of London, where, according to Dr. West, they cause thirteen per cent. of the deaths under five years.* Meigs and Pepper state that, in Philadelphia, for the five years 1844–8, the deaths under fifteen from convulsions were in excess of those from cholera infantum or pneumonia and several other diseases that they mention. In Massachusetts, three times as many deaths under fifteen occur from cholera infantum and one and one-half times as many from pneumonia as from convulsions.

The relative mortality of this affection has not increased of late.

### NOMA (OR CANKER).

Noma is a disease that we have not found it convenient to class with any others. To it is assigned 1¼ per cent. of our infant mortality, or 112 deaths a year.

It is impossible that more than an insignificant proportion of these deaths can be caused by true noma. I doubt not that the experience of every one will bear me out in this statement. Undoubtedly most of these were cases of enteric disease or of simple atrophy, in which aphthous stomatitis, so commonly called canker, was a prominent symptom. So long as statements of the cause of death are taken from the friends, and physicians are so rarely called upon for certificates, our mortality reports will never possess the value they might have.

The diseases thus far considered occasion 89 per cent. of our infant mortality, leaving 11 per cent. still to be accounted for. About one-tenth of this is attributed to violent deaths and injuries of various kinds, quite a large proportion is unknown, while the remainder is divided among a great many diseases, all of minor importance.

Having taken this rapid survey of our field, the points that strike us most forcibly are, briefly, these:—

1st. That our infant mortality is no greater than that of other countries.

2d. That its causes are the same as elsewhere; but

3d. That, from difference of population and climate, or some unknown reason, some causes are less operative and others more so than in other communities.

---

* Op. cit., p. 42.

4th. That zymotic diseases are more common, and constitutional and inflammatory less so, than abroad; hence

5th. That sanitary reform, as a means of reducing our infant, as well as general mortality, demands our earnest attention, and promises a more abundant reward for our labors than it would in some other localities.

In taking leave of this subject, it is with the feeling that it has been but inadequately treated, and that the chief value of our remarks will be to suggest how broad a field for study lies in the direction we have been pursuing.

*Lynn, Mass.*, June, 1873.

---

ELASTIC RUBBER BANDS IN THE TREATMENT OF FRACTURES.—Dr. J. W. Southworth (*Buffalo Med. and Surg. Jour.*, May, 1873,) advocates the use of elastic retention straps, in place of the ordinary retention bands or bandages, in the treatment of fractures.

These elastic straps are most promptly improvised by taking the common rubber bands (from one-quarter to one-half an inch in width, by two inches in length), such as are sold by stationers, doubling them, and passing strips of strong muslin or factory cloth through the doubled band, so as to make it a part of the strap; thus allowing it to be stretched to the extent deemed advisable to produce the requisite degree of constricting force when applied around the splints.

In fractures of the fore-arm treated with two lateral splints, four small straps usually suffice, while in fractures of the leg or thigh more are required. Where two parallel lateral splints are used, as in fractures of the fore-arm, the rubber portion of the encircling straps must be placed between the opposing splints alternately on the superior and inferior borders, so as to counterpoise or preserve the balance of the constricting forces; and in case of the arm, leg or thigh where more splints are necessary, the rubber part of the straps should be likewise adapted to the interspaces of the splints, in order to attain the same object as nearly as possible. By these means a sufficient amount of retentive force is *constantly* in operation, and if much swelling takes place, there will be a conservative yielding of the encircling bands, and when the swelling subsides, no matter how rapidly, there is always a coincident as well as a commensurate adaptation to the diminished size of the limb. As an after-dressing, when osseous union has taken place, and nothing but a precautionary use of splints is required, the use of these elastic bands around either sole-leather, paste board or felt splints is particularly appropriate. In order to fix the splints quite immovably on the skin, a strap of adhesive plaster, two inches wide and as long as the splint, should be applied along the middle of the splint, with the non-adhering surface against its inner surface, applying a short strip, one inch wide, at the middle and at each end, so as to secure it in position. This affords an adhesive surface which will cause the splints to remain in situation most admirably after they have once been applied.

# Progress in Medicine.

## REPORT ON OBSTETRICS AND DISEASES OF WOMEN.*

By W. L. Richardson, M.D.

### Obstetrics.

*Der Wännliche und Meibliche Körper im Sagittallschnitte, und Die Lage des Uterus und Fötus am Ende der Schwangerschaft.* Von Prof. Wilhelm Braune. Leipzig. 1872.

This extract from Prof. Braune's atlas of topographical anatomy contains the account of some very important investigations recently made as to the true position of the uterus and its contents at the end of pregnancy. The experiments were made on two fresh bodies, the first being that of a female who had died in the last months of pregnancy, and the second was that of a patient in whom labor had already begun. The plates represent vertical sections which were obtained by cutting through the bodies which had first been completely frozen. The result is that all the various organs are seen absolutely *in situ*. The drawings are made with great care, and the measurements obtained by Prof. Braune differ essentially from those previously reported by other observers.

The following is a brief summary of the results reported:—

The uterus of advanced pregnancy does not have any regular relation to the skeleton, but is soft and changeable in form, its outline yielding to the elevations and depressions of the bony parts of the skeleton and the neighboring viscera. When the patient is in the horizontal dorsal position, the uterus rests for support upon the vertebral column, its longitudinal diameter being consequently lengthened. Moreover, especially in multiparæ whose abdominal walls are more or less lax, the uterus often lies obliquely across the vertebral column, having apparently fallen over the convex angle of the lumbar vertebræ. When, on the other hand, the patient stands up, the uterus falls forward so as to rest on the anterior wall of the abdomen, as a result of which the circumference of the body is increased at that point. Almost invariably the spinous process of the last lumbar vertebra lies on a level with the greatest abdominal prominence.

The peritoneum invests the posterior aspect of the uterus lower than the anterior and covers the upper part of the posterior vaginal wall. The uterine fasciæ descend with their net-work of veins and lymphatics almost to the orifices of the urethra and rectum.

*Quinia as an Oxytocic.* S. H. Plumb. *(Amer. Jour. Med. Sci.,* July, 1873.)—The writer claims that quinia is just as much an oxytocic as ergot is. Those writers who have denied this action to quinine have not clearly understood the meaning of the word. An oxytocic is a remedy which *promotes* delivery, not one which *induces* it. Dr. Plumb states that he has practised medicine for more than twenty-five years in a malarious district, and has had occasion, very frequently, to administer quinia to pregnant women, and yet has never seen any ill effects follow its use. For the last fifteen years he has used it as an oxytocic, and is fully convinced of its efficacy in promoting delivery. It possesses, moreover, one great advantage over ergot, that under its influence the labor pains preserve their natural intermittent character, thus avoiding the constant uterine action which follows the use of ergot, and which of itself would, in some cases, contra-indicate the use of that drug altogether.

---

* Second Semi-annual Report.

Dr. Wm. L. Lincoln (*Trans. Minn. State Med. Soc.*, 1873), in a report on obstetrics recently made to the Minnesota State Medical Society, confirms these views of Dr. Plumb, and gives an account of several cases in which he gave quinia to pregnant women. His experience went to prove that, when given during labor, the pains became at once more severe and regular. In those cases, however, where it was prescribed for malarial fever, or diseases arising from some malarial influence, no uterine action whatever followed its administration.

*Induction of premature Labour.—(Liverpool and Manchester Med. and Surg. Reports*, 1873, p. 170.*)* Dr. Walter Whitehead suggests an improvement on the plan originally proposed by Dr. Barnes. The method, as described in his "Lectures on Obstetric Operations," consisted of the introduction overnight of an elastic bougie several inches within the uterine cavity. This was supposed to be held in position by the remainder of the instrument which was to be coiled up in the vagina. Within twenty-four hours some uterine action would have set in. The cervix was then to be dilated by means of hydrostatic bags, the membranes ruptured and the child delivered. The chief obstacle which interfered with the success of this operation was the great difficulty experienced in attempting to retain the bougie *in situ*. Dr. Whitehead has suggested a most admirable improvement to this plan. To the end of the bougie he attaches an air-pessary. The bougie is first placed for a few moments in warm water and afterwards anointed with olive oil. It is then introduced, either with or without a speculum, within the uterine cavity. The pessary is inflated and the small tap at the end of the tubing, which connects with the pessary, is turned and made secure by a little piece of sticking plaster. It is then to be passed through an aperture made in the centre of a perineal bandage, which is held in position by a second band passed around the waist. The pessary holds the bougie in position, dilates the vagina in anticipation of the expulsion of the fœtus, thus facilitating the ulterior stages of the labor, and acts as an additional excitant of uterine action. In support of his views, Dr. Whitehead gives the details of six cases, in all of which the instrument worked admirably.

*Chloral as an Anæsthetic.* *(Trans. Edin. Obstet. Soc.*, 1872.*)*—Dr. E. Lambert gives the details of eleven cases of labor, during the course of which the hydrate of chloral was administered with a view to producing anæsthesia. In some of the cases the results were rather negative, but in several the patients appeared to be in a semi-conscious state, and after delivery reported that they had experienced but little pain. He advises its administration in the dose of fifteen grains repeated every quarter of an hour until some effect is produced. With some patients as large a dose as a drachm may be required, but he considers that small doses frequently repeated always act better than larger ones given at long intervals. It is chiefly adapted to the first stage of labor; although, in some of the cases which he reports, the anæsthesia lasted until after the birth of the child.

Schroeder confirms this statement of Lambert and adds that, although in some cases the intervals between the pains will be found to be lengthened, yet the efficiency of the pains will be found to be unquestionably increased. As early as 1870 *(Amer. Jour. Med. Sci., Oct.,* 1870*)* Dr. Du Hamel called the attention of the profession to the great value which he had derived from the use of chloral in labor. He gave it in twelve grain doses every hour, for three hours, with very great benefit to the patient.

*Position in Labor. (Medical Examiner,* July 1, 1873.*)* In a paper recently read before the Iowa State Medical Society, Dr. J. W. Smith calls the attention of obstetricians to the great influence which the position occupied by the patient during delivery has on the course of the labor. He thinks that most cases of labor have a lateral obliquity or pressure, and that the patient should always therefore lie on the side corresponding to the pelvis which is most filled or pressed upon by the presenting part. The woman's head should be low, as in that position the fundus can move more freely. One arm should be placed back of her, or the elbow be sharply flexed, the hand only being allowed to rest in front of the chest. In this position she cannot easily turn on her back, thus defeating the full advantage to be derived from her position. In cases of obliquity, pendulous abdomen, uterine inertia &c., he also advises the use of a wide bandage as a supporter. By a careful attention to the position of the patient, Dr. Smith thinks that the duration of ordinary labor may be greatly shortened, thus lessening not only the sufferings of the mother and the risk to both mother and child, but, in this way also, the necessity for instrumental interference will often be avoided.

*Irregular uterine Action during Labor. (New York Med. Jour.,* June, 1873.*)* Dr. Lusk, following the usual classification, distinguishes, as examples of irregular uterine actions, pains in excess, deficient pains, cramps of the uterus and the various forms of stricture. As regards the first of these varieties he questions whether the uterus ever acts with such an undue degree of energy as *per se* to constitute a pathological condition. Strong pains, such as occur in cases of obstruction to the passage of the child, may become a source of danger, though their action is oftentimes beneficial; and, in the strong pains, we have in our possession, as suggested by Michælis, always the least dangerous means of ending the labor. It is true that, owing to the violent straining, such as is often noticed in women who possess such an undue degree of reflex irritability as impels them to an excessive use of the diaphragm and abdominal muscles, serious accidents, such as prolapsus and inversio uteri, lacerations of the uterus, vagina and perinæum, hæmorrhage &c., may occasionally follow a precipitate labor in consequence of excessive uterine action. The subcutaneous injection of morphia or the production of complete anæsthesia by chloroform will suspend the action of the voluntary muscles, and thus remove this source of danger.

Too weak pains may be oftentimes pathological. In many of these cases, however, it is better to wait and not resort to the use of oxytocics, provided that the uterus remains slack, and therefore does not compress the fœtus. In these cases, when interference is called for, a judiciously-selected operative procedure is best resorted to, or ergot may be administered. In a limited number of cases a regulated pressure, made through the abdominal walls upon the fundus uteri, as advised by Kristeller, may be found useful.

Strictures of different parts of the uterus are classed by many writers among the causes of difficult labor, but Dr. Lusk questions this opinion, and, while admitting, of course, the existence of circular, oblique and longitudinal muscular fibres, claims that their importance has been greatly exaggerated. He doubts whether, during labor, the uterus ever contracts except in its totality, and he ascribes these so-called strictures to insufficient uterine action. In these cases there is no necessity for bloodletting, or the use of tartar-emetic or belladonna ointment; the chief indication for treatment is to relieve the acute suffering, which usually accompanies such a condition of the uterus, and then in time the tonic contraction will disappear of itself. This is best done by the administration of morphia either by the mouth or hypodermically. In some cases, where anodynes and anæsthetics fail, the rupture of the membranes will be followed by the happiest results. In those cases where our object is to overcome rigidity of the cervix quickly, other methods having failed, the use of Barnes's dilators will act most beneficially. Occasionally, the head having passed through the cervix, the tonic contraction of the uterus will prevent the advance of the shoulders. This state is due not to the spasm of any special bundle of circular fibres, but to the fact that the uterus has become conformed to the fœtal irregularities. Whether this condition is met with in a head or breach delivery it is best overcome by kneading and compressing the uterus so as to excite expulsive pains. The condition before delivery, known as uterine rheumatism, may be due to hysterical hyperæsthesia, intestinal irritability, early stages of inflammation or to deficient elasticity (seyfert) of the peritoneal covering of the uterus. Such pains as these disappear, under the use of warm baths, blankets, hot drinks and Dover's powders.

*Eclampsia*. Dr. Isaac G. Porter (New London, Conn.) considers that convulsions are occasioned by the presence of a toxic agent in the blood, and that this agent must be eliminated by purgatives, diuretics or diaphoretics. As a very active and efficient method of treatment he advises the use of the "wet pack." He gives the particulars of a case (*Amer. Jour. Med. Sci.*, July, 1873) in which it was tried with perfect success after therapeutic means of acknowledged power had failed. The patient had had some thirty convulsions when she was placed, her clothing having been previously removed, on a sheet wrung out of water as hot as could be borne. She was rolled up in this, blankets being rolled outside of it. Hot water was used rather than cold in this case, as there was a slight attempt on the part of nature to eliminate the poison by diaphoresis. In cases, however, where the skin is hot and dry, the "cold pack" is to be preferred. Within an hour she passed into a quiet sleep, and became universally wet with perspiration which, if not urinous, was at least very offensive. She had but one convulsion after the "hot packing" was resorted to. She remained "packed" five hours, after which the diaphoresis was continued by milder means.

Dr. Alexander Milne reports a case of convulsions (*Trans. Edin. Obstet. Soc.*, 1872) in which very marked relief followed the administration of sixty grains of the hydrate of chloral. This remedy was highly recommended by Rabl-Rückhard *(Berlin. Klin. Wochenschr.*, 1869, No. 48), who used it with success in the treatment of puerperal convulsions. He preferred, however, to administer it subcutaneously.

Schroeder advises that narcosis be produced as rapidly as possible by the inhalation of chloroform, and the condition be subsequently kept up by subcutaneous injections of morphia. (*Manual of Midwifery*, Schroeder, London, 1873.)

*Labor complicated with Malignant Disease of the Genital Passage. (Lancet, March* 1, 1873.*)*—Dr. J. J. Phillips (London) reports two cases of labor complicated with malignant disease, in which is clearly shown the advantage to be derived from the efficient employment of hydrostatic pressure as a means of effecting a gradual dilatation of the genital passage. The first was a case of cancer of the cervix uteri. The anterior lip of the cervix was occupied by a hard mass about the size of a pullet's egg, while a similar swelling, about half of that size, occupied the posterior lip, a firm rim of os uteri connecting the two swellings. The patient had been in labor over twenty-four hours, the os dilating but slightly. Barnes's bags were introduced and subsequently filled with water. As soon as the cervix admitted of the introduction of the largest bag, version was performed and the patient delivered of a stillborn child. The patient died of cancer some eighteen months after delivery. The second was a case in which the whole anterior wall of the vagina was occupied by an indurated mass, having a foul, irregular, ulcerating surface. It was deemed advisable to induce labor at the eighth month. The membranes were accordingly ruptured; a spherical bag, about two inches in diameter, was introduced into the vagina and distended by hydrostatic pressure. The pain which followed, was relieved by a subcutaneous injection of morphia. Later, a Barnes's bag was introduced, as the lower part of the vagina had yielded but little to the spherical bag. The child was subsequently delivered with the forceps. The patient soon after left the hospital, and, though the disease had steadily progressed, was alive some six months later. There is no question but that, occasionally, an incision may be absolutely necessary, but these cases show that, where the malignant disease is not far advanced, dilatation by means of water-bags may be sufficient.

*Craniotomy.*—The chief difficulty which the operator has to encounter in performing the operation of craniotomy is to be found in the extraction of the fœtus. The perforation of the fœtal head is comparatively an easy task, although we cannot but allude, in passing, to the great advantage which, even in this part of the operation, Braun's curved trephine has over any of the various cutting perforators used so generally in this country. The German instrument avoids any possibility of spiculæ of bone being left to injure the vaginal canal in the subsequent extraction of the fœtus. The head having been perforated, the question then arises how is the extraction to be performed. Various instruments have been invented for this purpose, which, while they differ in some trifling details from each other, may yet be divided into two classes, the cephalotribes and the cranioclasts.

In a most excellent article recently read before the New York Obstetrical Society, Dr. Paul Munde calls the attention of obstetricians to the cranioclast as improved and used by the Vienna School.

In this paper *(Amer. Jour. of Obstet.,* May, 1873) the writer alludes to the great size and bulk of the cephalotribe, which would alone prevent its free use in cases of extreme pelvic deformity, unless indeed it be applied in the transverse diameter; in which case the very compression which follows would cause the antero-posterior diameter of the head to lengthen and thus render the contraction all the more difficult, since this diameter corresponds in most cases to that pelvic diameter which is in such case abnormally shortened. He also calls attention to the fact that it is with great difficulty that the mutilated head can be firmly grasped with the cephalotribe, and that frequently serious injury is inflicted to the maternal parts by the instrument slipping. All of these objections are avoided by the use of the cranioclast, an instrument first described, in 1860, by Simpson, and since then greatly modified and improved by Braun and his colleagues in Vienna.

Dr. Karl Rokitansky, Jr. *(Beobachtungen über Kraniotomie.—Wiener Med. Presse,* 1871) gives the following figures as showing the comparative results of craniotomy cases terminated with the cephalotribe and with the cranioclast:—Out of 52,394 cases of confinement in Professor Karl Braun's clinique, during ten years and three months, one hundred and three were terminated by craniotomy. In eight cases, after trepanation was performed, the pains expelled the child. The cephalotribe was applied in forty-three cases with the following results:—The instrument slipped off in eight cases; in two cases, the child could not be delivered with the cephalotribe, and version had to be performed; in six cases, the head had to be crushed in different directions; in eight cases, ruptures of the cervix occurred, and in three cases a vesico-vaginal fistula followed the delivery. Of the mothers, twenty-one died, sixteen of the deaths being the result of puerperal disease.

On the other hand, in fifty-two cases the extraction of the child was performed by means of the cranioclast. In no case did the instrument slip, or was it found necessary to re-apply it. Of the mothers, nineteen died, fifteen of puerperal disease. Comparing these results with the results following the use of the cephalotribe, Rokitansky says "all of the unpleasant occurrences accompanying the use of the cephalotribe were found wanting during the operation with the cranioclast."

Dr. Munde closes his article by giving Rokitansky's résumé of the advantages of the cranioclast.

1. Its application is possible in every diameter of the pelvis and is never attended by the difficulties peculiar to the employment of the cephalotribe in some cases.
2. Owing to its smaller size, and the fact that the solid blade is introduced into the cavum cranii, it needs a much smaller field of action.
3. The action of locking is very easy, as the lock remains external to the vulva, and the blade lying in the cavity of the skull can be moved freely in all directions without fear of injuring the maternal passages.
4. It never slips.
5. It is equally reliable with the preceding as with the succeeding head.

6. Injuries to the genital organs do not follow its use.
7. It can be intrusted much sooner than the cephalotribe to the hands of a but moderately skilful operator.

*Forceps.*—Fortunately, as regards the sufferings of the mother and the safety of both mother and child, the forceps are daily being used more and more frequently by the profession. In a report of 1400 cases occurring in his obstetric practice, Dr. Thos. Savage states (*Lancet*, Feb. 22, 1873) that in 1,437 births he used the forceps 220 times, or about once in every 6½ deliveries. Of the children thus delivered, 129 were males and 91 females. As showing the great change which has come about in the use of the forceps, he alludes to the fact that according to the statistics of the Royal Maternity Charity of London (1828-1850 inclusive), forceps were used *seventy-three* times in 48,996 deliveries, or about once in 670 cases. Craniotomy was resorted to *sixty* times in the same number of cases.

Besides the usual indications for the use of forceps, Dr. Savage advises that they should be used when the uterus is in a state of constant contraction, the patient being in a state of pain all the time, the head being pushed steadily forward and never receding.

According to the annual report of the Rotunda Lying-in Hospital in Dublin (*Dublin Jour. Med. Sci.*, Feb. 1873), forceps were used 131 times out of 1,193 deliveries, or once in $9\frac{1}{10}$ cases. In thirty-five instances forceps were used before the os was fully dilated. Of these last cases, two terminated fatally; both of the patients, however, had gastritis at the time they entered the hospital.

*Zymotic Diseases.*—From the Annual Report of the Rotunda Hospital above alluded to, the following interesting facts are taken. Scarlatina appeared three times. In the first case, the rash appeared on the fifth day. The patient was at once removed to another hospital. Four other patients in the same ward went out well. In the second case the rash appeared on the third day. The patient was at once removed, and four other patients in the same ward were discharged well. The third case broke out on the fifteenth day after delivery. There being only two other patients in the ward at the time, and as a space of one bed intervened between them and her, she was allowed to remain, and was discharged in due time well. The other two patients suffered in no way from the presence in the ward of the patient with scarlatina.

Ten cases of variola occurred in the hospital, nine being among the patients and one in one of the inmates. The latter was moved at once to another hospital and died. In one case, the woman entered the hospital with the disease. She was delivered and then sent to another hospital. In seven cases the disease appeared at varying intervals after entering the hospital, viz., one in 12 hours, one in 24 hours, one in 26 hours, two in 3 days, two in 4 days. Six of these were sent to another hospital, and one was removed to a small ward. In one case the disease appeared on the ninth day, in the child, which died forty-six hours later. The mother continued perfectly healthy. She had never been re-vaccinated, but had two well-marked cicatrices on her arm.

All of these cases of variola were more or less in contact with the other labor patients, in whose wards they were for a period varying from six hours to four days; and yet in no instance did the disease extend from the one individual. Six cases of mania occurred, five being unmarried. Two died; one from extreme mental distress, the other from extreme renal disease.

Twenty deaths occurred during the year, being an average of 1 in $59\frac{13}{20}$. Of these 20 patients, 14 died from accidental causes, thus leaving only six which died of zymotic disease. This lessens the average to one in $198\frac{5}{6}$. Of these six cases of death occurring from some zymotic cause, one took place in November (Ward No. 5), one in April (Ward No. 5), one in May (Ward No. 6), one in July (Ward No. 2), two in August (Wards No. 1 & 2). In these wards all the other patients confined at the same time went out well.

Dr. Johnston closes his report by calling attention to the fact that, although epidemics prevail with a fatal issue and to a fearful extent outside the hospital, and notwithstanding that patients are admitted from the infected localities, they do not exist in the hospital, and if, perchance, a patient is admitted with disease upon her, it is not disseminated through the institution, never having once extended beyond the individual case.

(To be concluded.)

---

Digestive Power of Saliva and Pancreatic Juice during Infancy.—The *Medical Times and Gazette*, May 31, 1873, states that the recent experiments of Korowin, of St. Petersburg, upon the saliva of new-born infants and sucklings, in regard to the time of its very earliest appearance and its fermentative power at different ages, deserve careful attention. Korowin, by giving to infants pieces of compressed sponge to suck, and then squeezing from these whatever saliva, if any, might be collected, was able to determine that saliva might be obtained from the mouth of a child only a few moments born. The secretion is, however, very scanty. From the end of the first month of life, and especially after the sixth week, the amount of saliva which may be removed increases much. In the third month, as much may be obtained as in the first month in one tenth the time. In the fourth month, the saliva begins to flow visibly from the mouth of the child.

The saliva of the child possesses its diastatic or fermentative property from the time of its first appearance—that is, immediately after birth. The action of the saliva, however, is not always equally powerful; on the contrary, it increases steadily and rapidly with age up to a certain point. It seems certain that while its diastatic power increases up to the eleventh month of age, it then reaches its maximum—that is, a given amount of saliva of a child of eleven months and of an adult respectively, decomposes equal quantities of starch-paste.

Korowin removed the pancreas from the bodies of children who had died of various diseases, at various intervals *post mortem*. An artificial pancreatic juice was then prepared in the usual manner, and the amount of glucose formed estimated quantitatively. The results obtained are very important. In a child of one month the action of pancreatic juice upon starch is absolutely *nil*; it is first demonstrable in the second month, but very feeble; at the end of the third month of life it has become sufficiently powerful to make a quantitative estimation possible of the sugar formed. The diastatic action of the pancreatic juice, once acquired, increases in intensity with age, and reaches its maximum at the end of the first year of life.

# Bibliographical Notices.

*Chemistry: General, Medical and Pharmaceutical, including the Chemistry of the U. S. Pharmacopœia. A Manual on the General Principles of the Science, and their applications to Medicine and Pharmacy.* BY JOHN ATTFIELD, Ph.D., F.C.S. Fifth Edition. Revised from the Fourth (English) Edition by the author. Philadelphia: Henry C. Lea. 1873. Pp. 606.

Within five years this manual has passed through five editions, the last American one (the third) having been issued in 1871. Much new material ("altogether about seventy pages") has been added to this last edition, and many corrections have been made, so as to bring the standard of the work up to the present stand-point of chemical science. The chapter on the "General Principles of Chemical Philosophy" has been entirely re-written, and contains very clear statements and explanations of the more recent theories. The chemical laws are clearly worded, and the definitions given are accurate and concise. In some of the theoretical points the author differs from most chemists, such as, in his idea of the acid "radicals," and of the quantivalence of iron. He speaks, for instance, of $NO_3$ as the radical of nitric acid, and of $SO_4$ as the radical of sulphuric acid, instead of $NO_2$ and $SO_2$ respectively; and he states that the iron in ferric compounds is trivalent instead of quadrivalent, most authors considering that one combining unit of each atom of iron in the ferric compounds is saturated by the other, while the remaining three combining units of each atom are saturated by three of some other element or radical, as chlorine in ferric chloride ($Fe_2Cl_6$).

The arrangement of the elements is somewhat novel, both the non-metallic and metallic being subdivided according as they are used with greater or less frequency in pharmacy, so that some elements, which are very closely allied to each other chemically, are widely separated in the book. Thus bromine is classed with those but little used, and separated from chlorine and iodine, between which it is intermediate in its chemical properties; and, moreover, the propriety of arranging bromine among those elements of the least practical importance is questionable. The treatment of lithium, manganese, nickel, chromium and bismuth among the metals is separated from that of those metals to which they are closely allied chemically, and the acids are also arranged on the same principle.

The best tests for the different substances are given, and the action of the reagents used is fully and clearly explained. The chemical reactions which take place in the performance of the most important tests are also given, and the importance of being able to describe the effect of reagents by the writing of reactions is fully impressed upon the mind of the student. It is in this way that the action of ferric hydrate (hydrated sesquioxide of iron) upon arsenious acid, and of the mixed ferrous and ferric sulphates upon hydrocyanic acid or alkaline cyanide is explained, thus giving the student by a mere glance the *rationale* of the antidotal effect of these agents.

Several analytical tables are given in order to show the action of group reagents in qualitative analysis, but the methods for separating the metals from each other and the precautions necessary to be observed are not as fully described as in the special text books on qualitative analysis, nor are the tables quite as complete. With the assistance of an instructor, however, to supply these deficiencies, the manual will prove very valuable to the student as a laboratory text book on qualitative analysis.

To the student of pharmacy the work is invaluable, the methods for preparing all of the official compounds in the Br. and U. S. Pharmacopœia being given and fully explained. The most recent preparations, too, have found a place in this edition. The means for detecting the most common adulterations in medicinal preparations are also given, and in the appendix a table giving the official tests for such impurities.

In that portion of the book which treats of organic chemistry, the molecular constitution of chemical substances is well explained, and those organic compounds, which are of the greatest practical importance to the physician and druggist, are treated of. Of the alkaloids, only the principal ones are spoken of, their chemical properties and more important tests being given. Also, the principal members of the saccharine and other groups of organic substances are well described.

Physiological chemistry is scarcely alluded to, and those portions of the manual which treat of urinary chemistry and toxicology are very incomplete, and not entirely free from error. Thus, it is stated that the presence of bile in the urine is best detected by Pettenkofer's test, whereas this test is only applicable to the biliary acids, substances which are rarely tested for in the urine, and the pathological importance of which is not as yet accurately determined. The statement is also made that, in testing the urine for albumen by the heat test, it is best to previously acidulate the urine with "a few drops" of *nitric* acid, which would be pretty sure to retain the albumen in solution, were only a very small amount present, as is frequently the case in chronic degeneration of the kidneys. The whole of urinary chemistry including the analysis of calculi is disposed of in twelve and one-half pages, and toxicological analysis in ten pages.

The outlines of quantitative analysis, volumetric and gravimetric, are given, those processes being most fully described which are the most frequently used by the pharmacist. The quantitative determination of quinia and morphia, and the processes for estimating the value of cinchona bark and of opium are included.

The work contains many extremely valuable tables, among which may be mentioned very complete tables for the conversion of the Troy and metric systems of weights and measures, and formulæ for the conversion of the degrees of the Fahrenheit, Centigrade and Reaumur thermometric scales into each other.

For the pharmaceutical and medical student, Prof. Attfield's work forms an excellent text book on general chemistry, containing much valuable information which is not included in most text books on general chemistry. For the study of medical chemistry, however, the student must have recourse to special treatises, and we have yet to see a good text book upon medical chemistry for the use of the medical student.
E. S. W.

# Boston Medical and Surgical Journal.

BOSTON: THURSDAY, AUGUST 21, 1873.

THE petition from the slaughtering establishments, bordering upon the Miller's River basins, to the Board of Aldermen of this city, seems to have ignored the testimony of the Board of Health in regard to the cause of the terrible odors to which the public have of late been subjected. It seeks to lay the blame entirely upon the very imperfect system of drainage which has been adopted by all the cities bordering on the waters of Charles River. We have lately alluded to the report of the joint commission of the Board of Harbor Commissioners and the State Board of Health, to the cities of Cambridge and Somerville, appointed by an act of legislature last year to investigate this nuisance, the smells and complaints of last summer having rendered some action absolutely necessary. The commission engaged the services of an eminent engineer to make such investigations as were deemed necessary. A careful survey of the whole district was made, the actions and influence of the tides were closely studied, and the mud and water were subjected to chemical examination. The report of the engineer to the commission seems to have covered the ground thoroughly. The conclusions arrived at were based partly upon these investigations and partly upon the testimony of the parties interested. The commission was satisfied that the nuisance was produced, firstly, by the use that is made of the basins as a receptacle of the sewage draining from the cities of Cambridge and Somerville; secondly, by their having become precipitating basins for all the filth brought by the incoming tide, but *mainly* from the use made of them by the neighboring slaughtering establishments. The remedy is embodied in the following plan reported by the commission:—

"First—That the city of Cambridge complete its system of sewerage, so that such portion of its territory as is now drained into Miller's River be drained into sewers already made or projected, having their outlets into Charles River.

"Second—That the City of Somerville construct a main sewer, from Milk street through Prospect, Washington and Cambridge streets, into Tufts' Dock in Charlestown, on Mystic River, and connect with this main sewer, lateral sewers, in such a manner that whatever now drains into the Miller's River basins, will drain by this main sewer into the Mystic River, and that the city of Somerville obtain the requisite legislation to carry this main sewer through the territory of the city of Charlestown.

"Third—That the cities of Cambridge and Somerville fill up with clean gravel, to the grade authorized by law, all the channel, flats, and basins of Miller's River, lying east of Prospect street in Somerville, and southwest of the Boston and Lowell Railroad; reserving at first from such filling, through the middle of said channel and basins to the outlet under the Boston and Lowell Railroad, a space not less than fifty feet in width, where such a width is possible, until the drainage of the territory of Cambridge and Somerville, now leading into these basins, has been diverted from them into Charles and Mystic Rivers, as hereinbefore provided, and then, in the months from November to April inclusive, finally removing from this reserved space the mud which has there accumulated in the process of filling the adjoining areas.

"Fourth—It will then remain to enforce those sanitary principles which the Commonwealth has already adopted with reference to industries of the class peculiar to this neighborhood."

This advice has to a certain extent been finally adopted, for the filling-in has begun. The work, however, will not be completed until long after the nuisance for this year at least has ceased. In the mean time we doubt if much can be done to mitigate the evil during the warm weather that is to come. We do not think that the petitioners are justified in the statement that "it is certainly a fact that no Board of Health, Committee on Health, grand jury or other official body has ever been able to fix upon those places [slaughter-houses] the stigma of having originated or produced the offensive smells or deleterious vapors."

We do, however, sympathize strongly with Mr. Squire's views on the subject of the drainage of Boston and its vicinity. With perhaps as great natural advantages as any city ever had, both in the formation of its land and the flow of its waters, on which to elaborate a perfect system of drainage, we are much worse off, in this respect, than even the great city of Berlin with a small and sluggish stream to discharge its filth into, and in many streets with a variation of level of scarcely two feet in as many miles. Our population is rapidly increasing, and many large and important areas are being filled in to meet the increased demand for land, and yet we have not thought it worth while to profit by the experience of other large cities. That of London, for example, which is mentioned in the petition, is too well known to need repetition here. The danger and expense there incurred will sooner or later be inevitably visited upon us. We think this subject of general drainage quite as important a matter to the city as the remedies to be applied to Miller's River; and we trust the source and motive of the petition will not stand in the way of a careful consideration of this subject by the Board of Aldermen.

---

THE annual meeting of the British Medical Association was held on the 5th, 6th, 7th and 8th of August. According to the last accounts, the prospects of a successful meeting were unusually good. The Association has of late years been growing greatly in popularity, if we may judge from the large yearly accession to its numbers which it has enjoyed for some time, and, what is perhaps of still greater importance to its success, from the very general participation of eminent men in the annual exercises. The number of foreign visitors is also numerous, and we find among the names on the list some of the most distinguished men on the Continent. America and many other countries are also well represented. The names of officers of the various sections and the list of papers and contributions offer a very attractive programme. We also find several additional interesting features, such as preparations for an exhibition of patients to illustrate different methods of treatment, and an " annual museum," or exhibition of objects of interest in connection with medicine and surgery, including all kinds of specimens, preparations, instruments and new medical works, all of which are set forth in a carefully prepared and illustrated catalogue. The President of the Association is Alfred Baker, Esq., of Birmingham; the President elect is Sir William Fergusson. In reading the accounts of the extensive preparations for the entertainment of over a thousand medical men, one is struck with the active and increasing interest manifested by Englishmen in their national association, and the strong contrast here afforded to the meetings of the American Medical Association and the class of men who attend them. The differences existing in the organization of the two bodies would afford an interesting and, perhaps, to ourselves, a profitable study. One great advantage possessed by the British Association is its place of meeting, which in itself affords facilities and inducements to tempt even the most eminent and the busiest men. The value of a representative journal is doubtless very great, and, indeed, has done much to increase its popularity. We shall look for the reports of the meeting with much interest.

---

"CATCHING COLD."—The *British Medical Journal*, June 28, 1873, contains an article with this heading. It states that, although our opportunities for studying the pathology of colds are very numerous, yet we know very little about it. Almost all that can be stated is that the diseases which are popularly ascribed to cold, are liable to come on after the whole body, or parts of it, such as the feet, have been quickly cooled below the normal, or, in other words, have been chilled. There are two factors concerned in the cooling of the body or its parts. One is the nature of the external medium, such as air or water, which is in contact with the body; the other is the condition of the bloodvessels. Dry air has very little power to abstract heat, provided it be still. The presence of a slight wind, however, from the constant contact of fresh particles of cold air on the surface of the body, soon carries off its heat. If moisture is present in the air it greatly increases its power of abstracting heat, and when wind and moisture are combined, the chilling effect reaches its maximum. Experience has shown us that it is not so much the absolute lowness of temperature which gives rise to colds, as sudden changes from a higher to a lower. The reason of this remained unknown till the recent researches of Professor Rosenthal cleared up the mystery. When cold is applied to the surface of a healthy animal the cutaneous vessels contract, and by thus confining the blood to the interior of the body, prevent its cooling, and preserve the temperature of the vital organs, unless the application of cold be continued for a considerable time. This is not the case, however, when the animal has been previously exposed to warmth sometime before. The cutaneous vessels become paralyzed by heat, and remain dilated even after the cold has been applied. The blood is thus exposed over a large surface, and becomes rapidly cooled, even though the temperature of the surrounding medium is not very low. Confinement in a choky office, hot theatre, or crowded ball-room will have this effect on man. From such places people pass out into the cool open air, or will sometimes purposely place themselves in a draught. The blood which is coursing through the dilated vessels of every part, is rapidly cooled below the normal, and, on its return to the internal organs, cools them much more quickly than it could have done had the person simply been exposed tocold without dilatation of the vessels by previous warmth. Rosenthal lays much stress on the great effect of sudden *cooling* in bringing on a cold, the sudden change in the temperature of the blood producing an irritating effect, and inducing inflammation in any weak organ in a way that a gradual alteration would not do. It would seem, however, that the alteration must be from a temperature above to one below the normal temperature of the blood, and not a mere reduction from one considerably above the normal to one at or near it. When much heated, we may stand for a short time in a cool atmosphere with impunity; but if we stand long enough to carry the cooling process too far and produce a shiver, we run a great risk of catching cold. The effect of a chill in causing inflammations, may be partly due to the effect of cold on the tissues themselves, and partly to the hyperæmia, which will occur in some parts when the blood is driven out of others by the contraction of their vessels. Rosenthal is inclined to ascribe the chief power to the former of these causes. Everybody knows the beneficial effect of cold baths, cold sponging, etc., in "hardening" persons, as it is termed, so that one who employs them is able to face almost any weather, and to endure sudden changes of temperature without injury. Rosenthal believes that by these means the tone of the cutaneous vessels is increased, so that they do not become so much relaxed by heat as to be unable to contract with sufficient force, when necessary. The power of regulating the temperature is thus preserved, and the person is protected from catching cold.

---

BLACKLEY ON THE CAUSES AND NATURE OF CATARRHUS ÆSTIVUS (HAY-FEVER OR HAY-ASTHMA).—The *London Medical Record*, June 18, 1873, contains an account of the investigations of Mr. Blackley, as recorded in a recent publication, regarding the causes and nature of hay-fever. For more than twenty years, the author has been a sufferer from the distressing malady of which he writes.

Mr. Blackley's experiments appear to show that the inhalation of the pollen of various plants, suffices to excite the disease; and that whenever the disease occurs, there is a direct relation between the severity of the symptoms and the amount of pollen floating in the air. Experiments were made with the pollen of the grasses, and also with that of plants belonging to thirty-five other natural orders. Almost every experiment was attended with such definite results as to show that pollen is the most powerful, if not the sole cause of the malady. Pollen was tested in five different ways: (1) by applying it to the mucous membrane of the nose; (2) by inhaling it, and thus bringing it into contact with the mucous membrane of the larynx, trachea and bronchial tubes; (3) by applying a decoction of the pollen to the conjunctiva; (4) by applying the fresh pollen to the tongue, lips and fauces; (5) by inoculating the upper and lower limbs with the fresh moistened pollen.

When a small portion of pollen, just sufficient to tinge the tip of the finger yellow, was applied to the mucous membrane of the nares, some of the symptoms of hay-fever were invariably produced, the severity and continuance of which were dependent on the quantity applied, and the frequency with which the application was repeated.

In all the observations on pollen, the author was the subject of his own experiments. Obviously it would have been futile to experiment on any subjects not possessing the idiosyncrasy which renders them liable to hay-fever. When pollen is moistened, it may be seen under the microscope, to change its form, swell up, and forcibly discharge its granular contents; and it is probable that this process occurs when the pollen is brought in contact with the nose and air-passages; and thus the fluid, which is poured out abundantly during a severe attack of summer catarrh, tends to increase and perpetuate the disease, by acting rapidly upon the pollen, which continues to be brought into contact with the irritated mucous membrane.

The author has found that pollen may, by dialysis, be made to pass through membranes thicker than those which line the bronchial tubes and air-cells; and he suggests the probability that the finer particles of this matter may, in some cases, pass through the mucous membrane of the air-passages, and thus entering the circulation, give rise to the constitutional symptoms which are sometimes developed. He has also shown a direct and constant relation between the amount of atmospheric pollen and the intensity of the symptoms in his own case.

He exposed slips of glass, so prepared that the atmospheric pollen should adhere to them, in the open air, for twenty-four hours at a time. These slips were then placed under the microscope, and the number of pollen-grains contained in equal areas counted. The result showed a continual increase in the amount of atmospheric pollen in the open country, from the beginning to towards the end of June, while the grass is in flower, and after this a gradual decrease. More atmospheric pollen is found in the open country than in the suburbs of Manchester, England—near which city most of the observations were made—and more in the suburbs than in the centre of the city. The gradations in the severity of the author's symptoms, corresponded very closely with his microscopic observations of the amount of atmospheric pollen. In other respects, too, there is a close correspondence between the varying severity of the disease and the amount of pollen in the air; thus, the symptoms are usually more severe on a hot and dry day, and often much mitigated by a comparatively cold and damp atmosphere; they are much milder within doors than when the patient is exposed to the open air. Hence some observers have concluded that a high temperature alone may be sufficient to explain the increased severity of the symptoms, but Mr. Blackley's explanation seems more satisfactory. He shows that, on a hot day, the pollen is more abundantly developed and thrown off into the air; and it is obvious that active exercise, by increasing the number and force of the inspirations, will bring into the air-passages a greater quantity of the irritating organic matter, which is the exciting cause of the malady.

The author believes that the dyspnœa of hay-asthma is the result of submucous œdema excited by the irritant action of pollen; and he doubts whether bronchial spasm has any influence in causing the phenomena of the disease. From this, the reviewer, Dr. Johnson, dissents. He believes that the theory of bronchial spasm alone suffices to explain the paroxysmal dyspnœa of hay-asthma, as well as of ordinary so-called spasmodic asthma.

After trying a great variety of remedies, Dr. Blackley has found none productive of permanent benefit. The only advantage derived from drugs has been the palliative influence of belladonna or opium ointment applied to the nostrils. The best means of escaping the disease is to take a cruise well out to sea during the hay-asthma season, or to go to a projecting part of the sea-coast where the prevailing winds are from the sea. For those who cannot go to the sea-side, the next best residence is the centre of a large town.

SECONDARY SYPHILIS COMMUNICATED BY AN INFANT TO ITS NURSE.—Dr. Angus Macdonald reports a case in which secondary syphilis was communicated by an infant, suffering from hereditary disease, to its grandmother, a woman 59 years old. The affection appears to have been communicated by means of the tube of the child's nursing bottle, which the grandmother was in the habit of putting to her own mouth before applying it to the mouth of the child. The symptoms consisted of a severe sore throat and a general eruption on the skin, distinctly syphilitic in character.—*Edinburgh Med. Jour.*, July, 1873.

## Correspondence.

### SEA-SHORE DOCTORS.

DOWN EAST, July 20th, 1873.

MESSRS. EDITORS,—Do you know what a *sea-shore doctor* is? I came very near saying *country doctor*, but, like some other titles, it might confuse. So I say *sea-shore doctors*, though they live in the country at times. The habitat of the true country doctor is in the country. He is there at all times. The other is a bird of passage, living in the city for nine or ten months in the year, and going off for a summer vacation—sometimes here, again there; to the Farms this year, to the Spyglass House another year, spending a few weeks in Sweet Potato Valley, or perhaps at Chicopee Harbor. His real residence is Boston, New York, or some of our larger towns. He doesn't do much at home, though he talks about his business pretty largely; and we poor country doctors wonder how he could leave for so long a time with so large a practice, till we find him out.

You will find him on the piazza of the Mambrino House, this evening, between a couple of your city ladies, to whom he is as attentive as if he hadn't a wife and children at home. He will be telling of the consultations which professors of surgery, &c., have asked for with him—the consequence of certain peculiar cases published by him. Us, poor devils, he thinks very little of. Mrs. Parnassus wanted me to call him in to see her child a day or two since. The child was taken sick before his arrival here, or I probably should not have had the case. He spent the time delivering a lecture to the lady and myself, clinical lecture, in which he detailed the diagnosis of cholera Asiatica and cholera infantum. He doesn't believe in homœopathy, but thinks it very unfair not to try it, if patients desire. He was terribly startled, last year, by a case of variola, and was the means of clearing out the Gammon Hotel, he being obliged to leave on business of importance—called away, &c. I saw the patient shortly after. The eruption was very abundant, but he had made a perfectly excusable mistake. Rhus toxicodendron, I think Dr. White would call it. How much better it was to make this mistake than it would have been to call smallpox "ivy pizen."

After all, the sea-shore doctor does not annoy the country doctor very much. His stay is very short in any one place, not over six or eight weeks, and generally less than that. How much he may bother you city gentlemen, is another question. If he manages to get hold of an anxious mother, whom he can frighten or cajole—impose upon in any way—I can imagine that he may make mischief for a time. From what I have heard of him, I know that if the patient returns home sick, our sea-shore friend follows him, continues to prescribe; never remembers that there is a family physician in the case, and sometimes has to be discharged. Even then, I am told, that he speaks of "Dr. ——'s irregular behavior in prescribing for *my* patient."

One of these doctors left here, the other day, and one of his patients fell into my hands. It was one of those who always employ a follower of Hahnemann at home. The little pellets which had been left made the patient a little stupid. The bottle was marked *Bry*. Now I am no chemist, but taking them myself, as by the Dr.'s direction to the patient, I *proved* them to be something very like an opiate:—dry tongue, loss of appetite, hoarse voice for an hour or two, itching skin, constipation for two days, strange propensity to sleep, and in that sleep to dream. I believe it was the 30,000th *potenz*, if it was anything, it affected me so potentially. Did you ever take any *Bry*?

Very truly yours,
COUNTRY DOCTOR.

---

## Obituary.

AT a meeting of the members of the Massachusetts Medical Society resident in Lawrence, the following resolutions on the death of their late brother, Dr. Seneca Sargent, were adopted:—

*Whereas*, Dr. Seneca Sargent, an esteemed member of our Society, who, by his untiring labors for the advancement of professional interests, and the development of medical science, won the respect of all who knew him, has been removed by death; therefore,

*Resolved*, That the members of the Massachusetts Medical Society, resident in Lawrence, most deeply mourn his death, and kindly sympathize with the family of our late brother, believing, as we heartily do, that our Society and the community at large have lost an eminent physician and worthy citizen, one ripe in years, who has rendered his name worthy of respect and of grateful remembrance.

*Resolved*, That a copy of these resolutions be transmitted to the family; also, to the Boston Medical and Surgical Journal, and to the local papers.

WM. D. LAMB,
D. DANA,
C. N. CHAMBERLAIN.

*Lawrence, Mass., Aug.* 11, 1873. C. C. TALBOT, *Sec.*

# Medical Miscellany.

QUICK.—They have rather a rapid way of living and dying in Memphis. Dr. Miller, of Atlanta, who was in Memphis while the cholera prevailed there, narrates a sprightly incident. At 7 o'clock a man went to market and bought his breakfast, went home, cooked it, and was eating it, when he was taken with cholera. He sent for Dr. Miller, who visited him at 9 o'clock, prescribed, and told him he would be back in an hour. At a quarter past 10 he returned. The man was not only dead, but had been buried, and the room swept and garnished for another occupant. What could Dr. Miller have given him?—*New York Tribune.*

"QUOSQUE TANDEM!"—Records of chloroform deaths are as frequent as ever in the Journals. We quote one from the *Clinic*:—

A most lamentable accident occurred in the office of Dr. Wm. H. Mussey, of this city, on last Wednesday afternoon. A young and apparently healthy German presented himself to have three or four fingers dressed after an accident by machinery. Chloroform was administered and before full narcosis was established the patient was seized with convulsive tremor and immediately succumbed.

THE CHAIR OF PHYSIOLOGY AT EDINBURGH.—It is stated the chair of Physiology in the University of Edinburgh is likely to become vacant by the resignation of Dr. Hughes Bennett, whose health is, unfortunately, far from robust. The names of four distinguished graduates of the University —two resident in Edinburgh, and two in London—are mentioned as those from among whom his successor may be selected. But we believe that, although it is probable that Dr. Bennett will think it proper to resign his chair at no distant date, it is by no means certain that he may not make another effort to perform some of its duties next session.—*British Med. Journal.*

DEATH FROM HEAT-STROKE IN A VAPOR-BATH.—An inquest was held at Stratford, Essex, a few days ago, on the body of a man who died while taking a vapor-bath in the public bath-rooms of the locality. The temperature of the bath at the time of the occurrence was not, according to the evidence of the proprietor of the rooms, above 110°; but Drs. Whitehouse and Kennedy, who had examined the body soon after death, expressed their belief that it could not have been less than 200°. The jury returned a verdict of "Death from coma, accelerated by the use of an over-heated bath."— —*London Lancet.*

ENERGY OF THE BOARD OF HEALTH OF BOSTON.—The board of health has begun to take active measures in regard to unhealthy tenement houses, and has determined to enforce the law rigorously. Yesterday a number of places were visited, causing considerable consternation among both owners and occupants. On Hammond park the board visited a block of four houses, with a carpenter, who bored holes in the floors, beneath which were found accumulations of the most stagnant and offensive water. These houses were numbered 57, 59, 61 and 63, and were rented in flats. One family has been sick ever since they entered the block, and one tenement was found in the worst possible condition of filth. Orders will be issued to-day to have the houses purified. The board visited a block in Westminster street, numbered from 20 to 36, under the cellar floors of which they found, after having them taken up, more or less stagnant water, which exhaled the most offensive and fever-breeding odors. These houses average two families, but so offensive has the atmosphere become that many of the tenants have packed their furniture and are moving out. The houses numbered from 9 to 21 Windsor street were also visited by the board. Their condition was such as to justify the most prompt and effective action, and steps will be taken to put them in a condition fit for occupancy.—*Advertiser*, Aug. 14.

**EXERCISES ON ANÆSTHESIA.**—We find in the *Buffalo Medical Journal* the following curious programme of a public lecture on Anæsthesia, lately delivered in New York.

"*Order of Exercises.*—Organ Voluntary. History of Anæsthesia, Dr. J. Marion Sims; Chemistry of Anæsthetics, Prof. R. Ogden Doremus, M.D., with Experiments. Practical Application of Anæsthetics in Surgery, Professor Frank H. Hamilton, M.D. Address by Rev. Henry Ward Beecher. Organist, Mr. Walter. Mayor Havemeyer will preside. For this occasion Mr. William Steinway has kindly tendered the use of Steinway Hall, Wednesday evening, May 21st, 1873, at 8 o'clock."

It is a curious illustration of the difference of "the point of view," that this display was promoted by a number of the most eminent physicians and citizens of New York, and evidently suggests to their mind nothing which savors of the ludicrous or unseemly. No one would be bold enough on this side of the water to attempt what appears to us as incongruous a series of "exercises" as were ever presented on the boards of a theatre.—*Brit. Med. Journal*, July 19, 1873.

**WOMEN STUDENTS AT ZURICH.**—The Russian decree relative to women students at Zurich, has produced great excitement in that town. All the newspapers are unanimous in condemning the arbitrary conduct of the Russian Government in the matter, though several of them admit that the Russian women students often behave in a manner discreditable to their sex. One of the professors of the university of the town observes, in a letter to the *New Zurich Gazette*, that the expulsion of the Russian women from the university will probably be followed by a large increase in the number of the women students from other countries, as German, French, and English women have hitherto been deterred from going to Zurich for their education by the improper behavior of the Russian women who attend the lectures there. A correspondent of the *Cologne Gazette* asserts that upwards of one-half of the Russian women students at Zurich live disreputably, and that many of the Swiss families in the town have consequently refused to receive them in their houses. That some belong to secret political societies is also a matter of notoriety; one of them even acted as vice-president at a "red" meeting of working men. The Russian women students have now decided, after some stormy meetings, that all but two shall leave Zurich next term, and proceed for the completion of their studies to Paris, Leipzig, Munich, and Heidelberg.—*Medical Press and Circular.*

---

**MORTALITY IN MASSACHUSETTS.**—*Deaths in sixteen Cities and Towns for the week ending August* 9, 1873.

Boston, 223—Charlestown, 19—Worcester, 21—Lowell, 30—Milford, 2—Chelsea, 6—Cambridge, 33—Lawrence, 17—Springfield, 15—Lynn, 17—Fitchburg, 6—Newburyport, 9—Somerville, 21—Fall River, 33—Haverhill, 8—Holyoke, 10. Total, 470.

*Prevalent Diseases.*—Cholera infantum, 165—consumption, 50—dysentery and diarrhœa, 25—scarlet fever, 13—cholera morbus, 10.

Four deaths from smallpox occurred in Holyoke.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

---

**DEATHS IN BOSTON** for the week ending Saturday, August 16th, 197. Males, 88; females, 109. Accident, 1—apoplexy, 1—asthma, 1—inflammation of the bowels, 4—disease of the bowels, 1—bronchitis, 3—inflammation of the brain, 2—cancer, 4—cerebro-spinal meningitis, 1—cholera infantum, 57—cholera morbus, 3—consumption, 25—convulsions, 4—cyanosis, 2—debility, 4—diarrhœa, 8—dropsy of the brain, 3—dysentery, 4—diphtheria, 2—erysipelas, 1—scarlet fever, 7—typhoid fever, 5—gangrene of the lungs, 1—disease of the heart, 6—insanity, 1—disease of the liver, 3—congestion of the lungs, 1—inflammation of the lungs, 4—meningitis, 4—marasmus, 8—old age, 5—paralysis, 4—premature birth, 4—pyæmia, 1—peritonitis, 4—rheumatism, 1—suicide, 1—teething, 1—whooping cough, 1—white swelling, 1—unknown, 3.

Under 5 years of age, 111—between 5 and 20 years, 8—between 20 and 40 years, 35—between 40 and 60 years, 19—over 60 years, 24. Born in the United States, 140—Ireland, 37—other places, 20.